

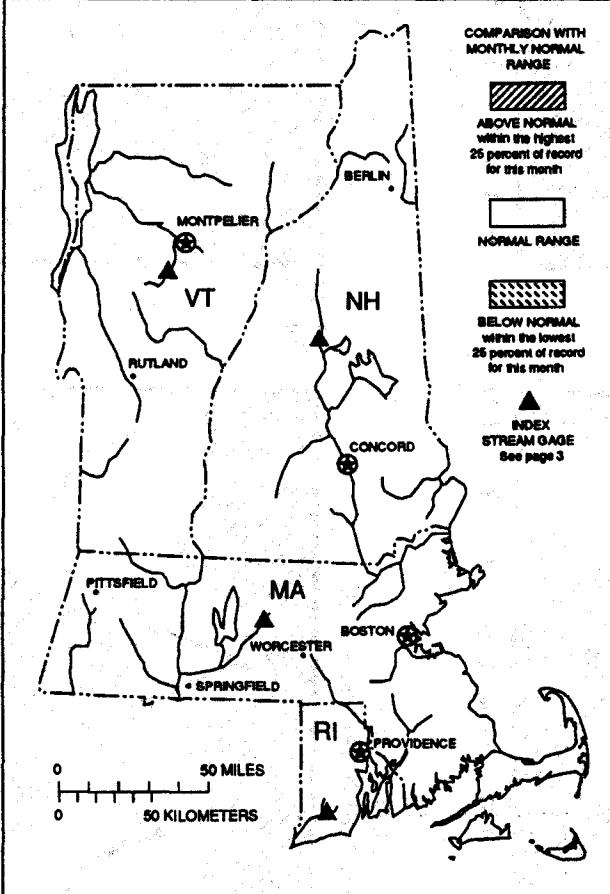
CURRENT WATER RESOURCES CONDITIONS IN CENTRAL NEW ENGLAND



WATER RESOURCES DIVISION, U.S. GEOLOGICAL SURVEY
IN COOPERATION WITH THE STATES OF
MASSACHUSETTS, NEW HAMPSHIRE, RHODE ISLAND AND VERMONT

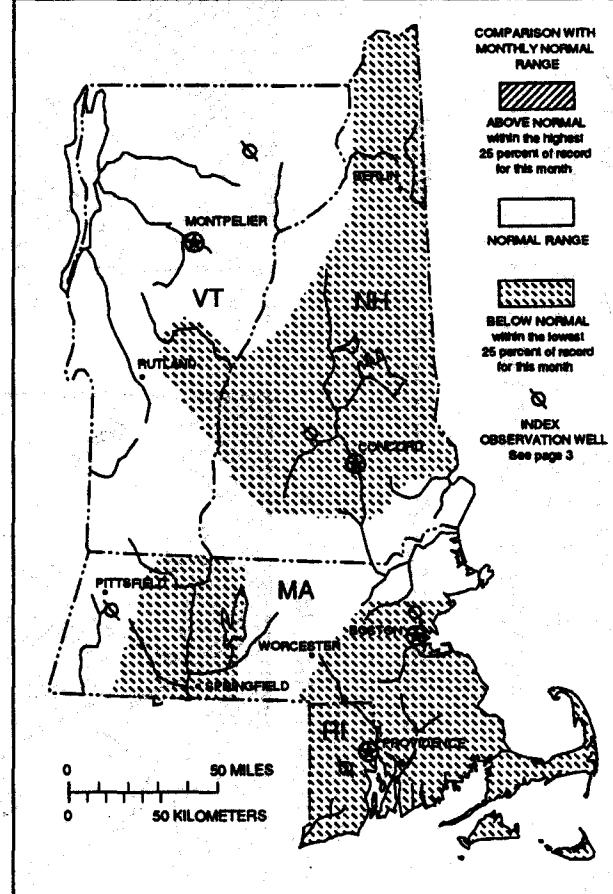
Surface-water Runoff

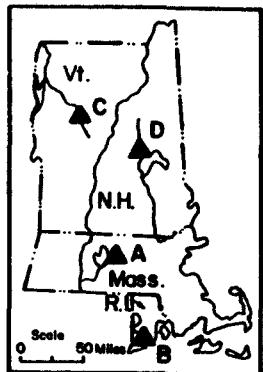
November 1993



Ground-water Levels

November 1993



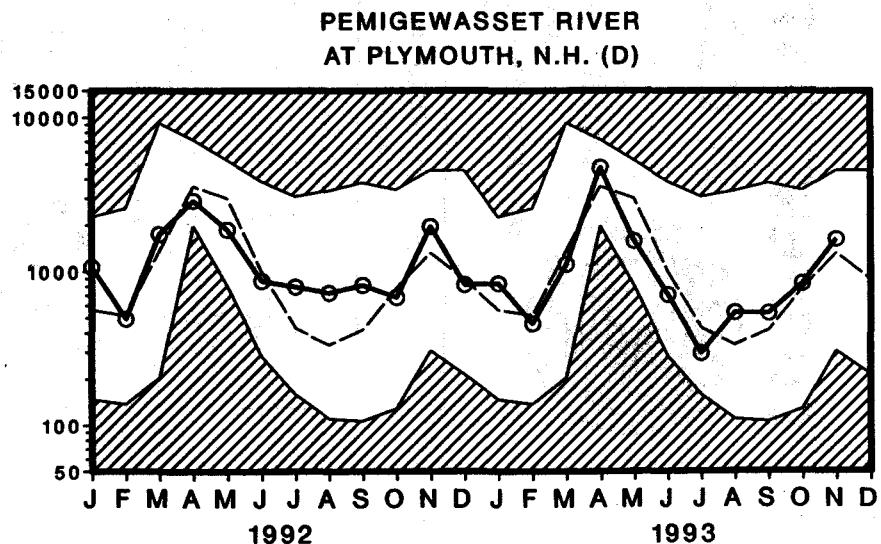
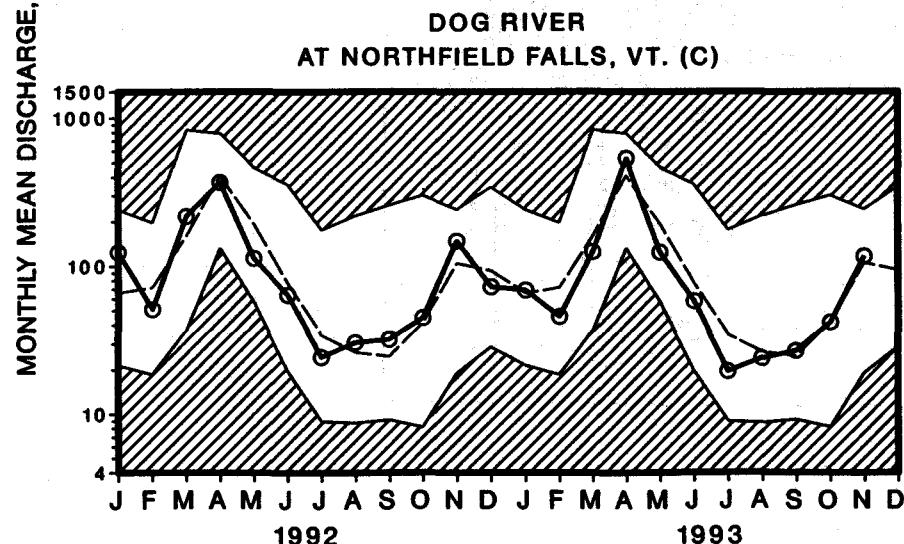
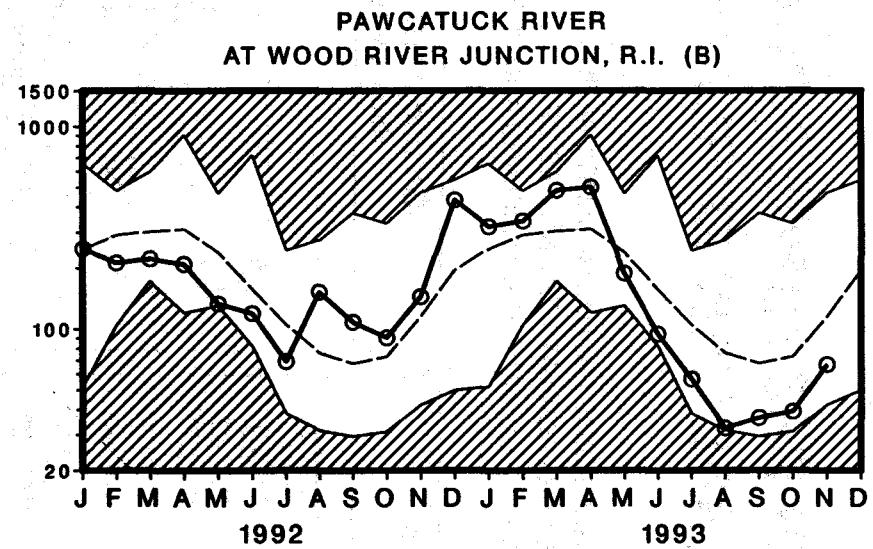
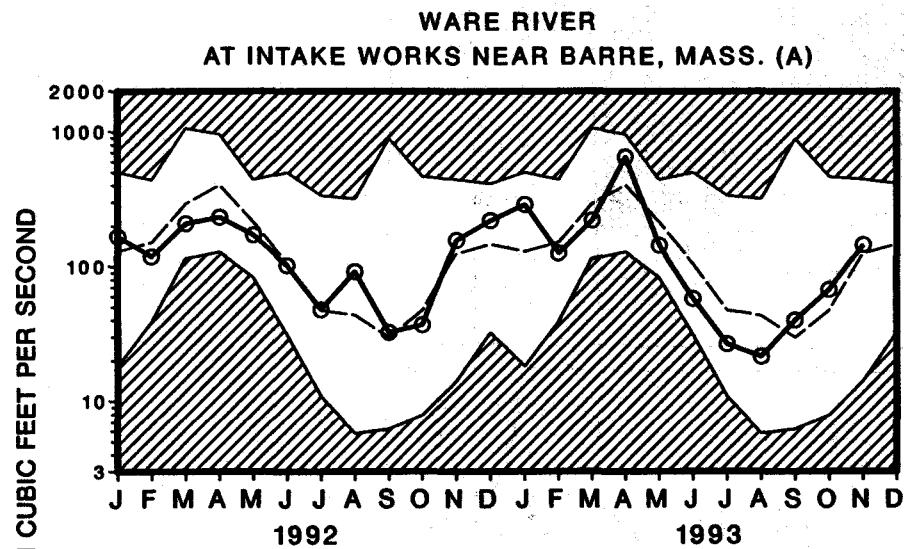


STREAMFLOW AT SELECTED INDEX GAGES

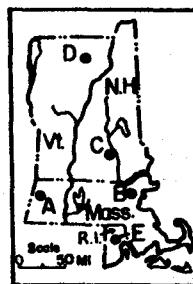
UNSHADED AREA SHOWS RANGE
BETWEEN HIGHEST AND LOWEST
MONTHLY MEAN DISCHARGE OF RECORD

CURRENT RECORDS —————

MEDIAN -----



GROUND-WATER LEVELS IN SELECTED OBSERVATION WELLS

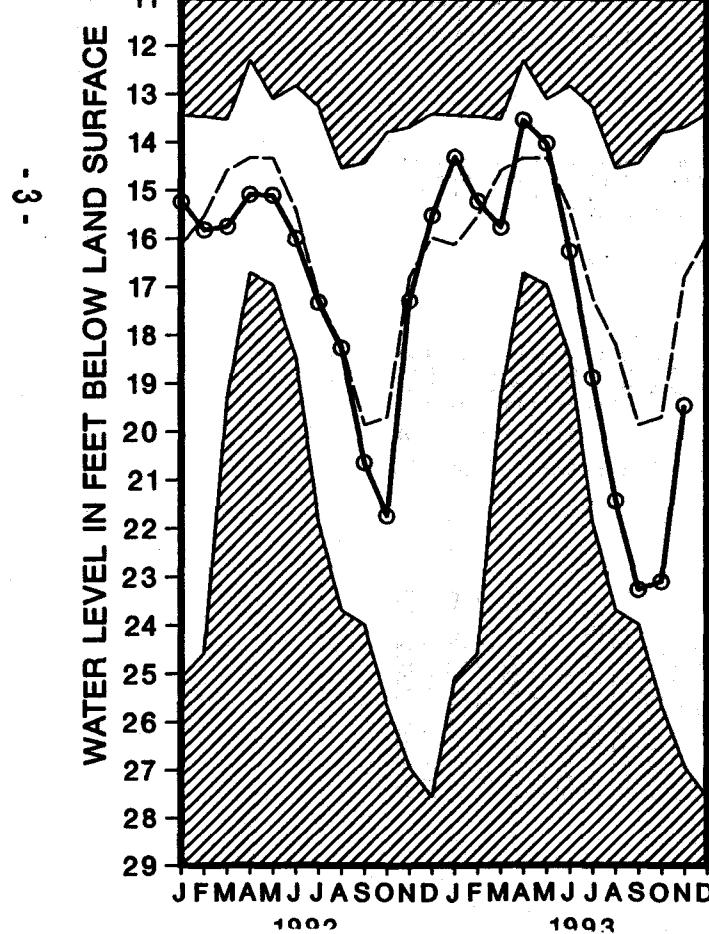


UNSHADED AREA SHOWS RANGE
BETWEEN HIGHEST AND LOWEST
MONTH-END WATER LEVEL

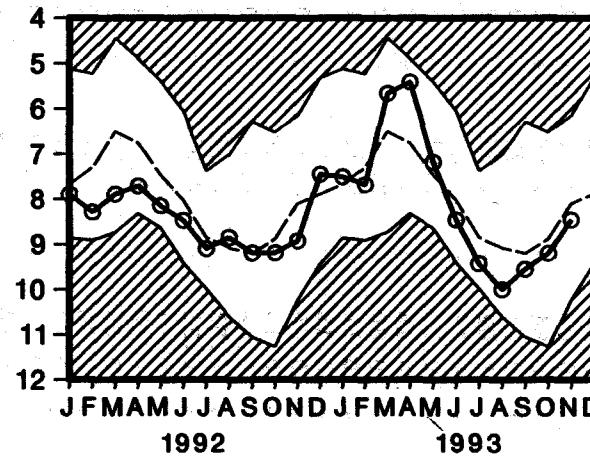
CURRENT RECORDS

MEDIAN

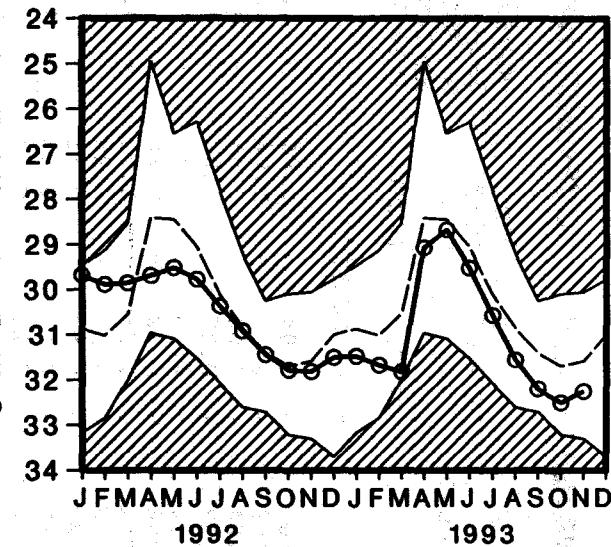
PITTSFIELD 51, MASS. (A)



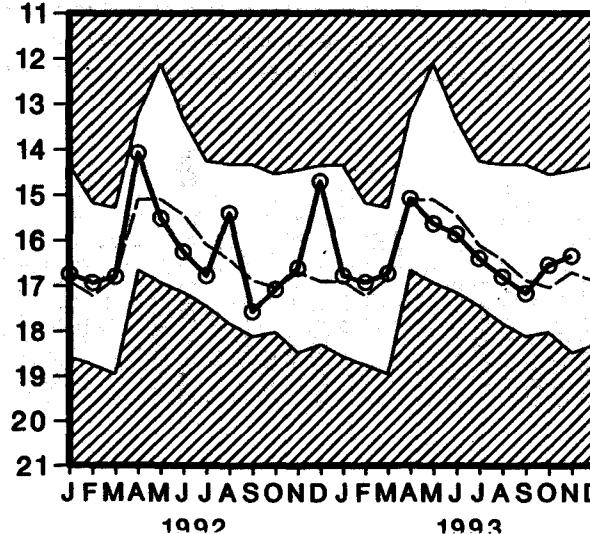
WILMINGTON 78, MASS. (B)



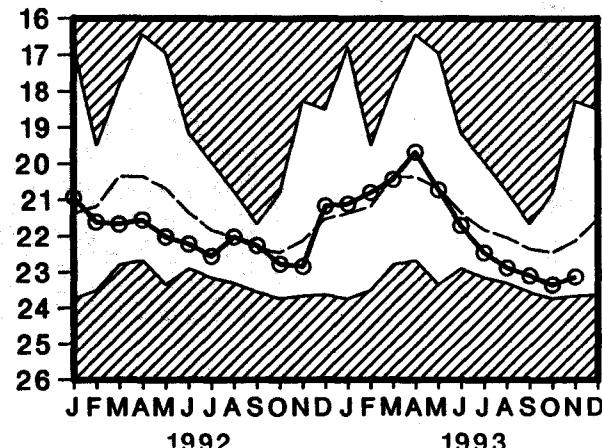
WARNER 1, N.H. (C)



GLOVER 1, VT. (D)



COVENTRY 411, R.I. (E)



SUMMARY OF GROUND-WATER LEVELS NOVEMBER, 1993 PROVISIONAL

WELL	L T	START I O T RECORD	NET CHANGE IN MONTH IN ONE YEAR	DEPARTURE FROM NOVEMBER MEDIAN	WATER LEVEL BELOW LAND- SURFACE DATUM (FEET)	DAY
	H P O O	(FEET)	(FEET)	(FEET)	(FEET)	
MASSACHUSETTS						
ACTON 158	T S 1965	- 0.04	- 0.84	- 0.85	20.74	29
ANDOVER 462	V S 1968	+ 0.61	- 1.04	- 1.81	16.28 <	24
ATTLEBORO 83	V S 1964	+ 0.60	- 0.56	- 0.58	4.20	22
BARNSTABLE 230	F S 1957	+ 0.35	+ 0.08	- 0.64	25.45	20
BARNSTABLE 247	F S 1962	- 0.28	+ 1.30	- 0.07	25.32	20
BECKET 12	T S 1986	- 0.12	- 0.18	+ 0.24	3.20	22
BILLERICA 363	H S 1962	+ 1.96	+ 1.52	- 0.78	9.15	29
BLANDFORD 9	V S 1986	- 0.11	- 0.28	- 0.02	2.13	22
BOSTON 925	S R 1960	- 0.57	- 0.71	- 1.22	24.30	29
BOURNE 198	F S 1962	- 0.06	- 0.23	- 0.36	34.58	24
BREWSTER 21	F S 1962	- 0.21	+ 0.84	- 1.09	11.49	29
BREWSTER 22	F S 1962	- 0.28	+ 0.35	- 1.01	32.45	29
CHATHAM 138	F S 1962	- 0.07	- 0.34	- 0.78	25.32	29
CHELMSFORD 68	T S 1939	+ 0.84	+ 0.59	+ 1.35	7.18	29
CHELMSFORD 384	T S 1987	+ 0.40	+ 0.22	- 0.34	15.82	29
CHESHIRE 2	H T 1951	+ 3.62	- 1.95	- 2.37	7.08	22
CHICOPEE 95	T S 1984	- 0.14	- 0.29	- 0.29	22.69	21
COLRAIN 8	V S 1965	- 0.19	- 0.61	- 0.73	22.40	21
CONCORD 165	T S 1965	- 0.46	+ 0.37	+ 0.12	42.08	29
CONCORD 167	T S 1965	+ 0.80	+ 0.36	+ 0.26	7.13	29
CUMMINGTON 13	V S 1986	+ 0.36	- 0.33	- 1.09	5.49 <	21
DEDHAM 231	S T 1965	+ 1.15	- 1.05	- 4.18	11.71	23
DEERFIELD 44	V S 1965	+ 0.06	+ 0.06	+ 0.01	2.64	21
DOVER 10	T S 1965	- 0.14	- 0.18	- 0.87	35.57	23
DUXBURY 79	V S 1965	+ 0.68	- 0.40	- 0.71	9.05	23
DUXBURY 80	V R 1965	+ 0.53	- 0.38	- 0.46	22.61	23
EAST BRIDGEWATER 30	H T 1958	+ 0.21	- 2.08	- 4.61	17.08	23
EDGARTOWN 52	V S 1976	-----	-----	-----	-----	
FOXBOROUGH 3	T S 1965	+ 0.18	- 0.44	- 1.11	20.95	22
FREETOWN 23	T S 1964	- 0.02	- 0.11	- 1.29	15.23	22
GEORGETOWN 168	V S 1965	+ 0.70	- 0.29	- 0.30	4.81	24
GRANBY 68	V S 1954	+ 0.51	- 0.58	- 0.63	9.28	21
GRANVILLE 5	T S 1965	- 0.19	- 1.33	- 0.93	34.81	22
GRANVILLE 6	S S 1965	- 0.04	- 2.24	- 1.13	5.86	22
GREAT BARRINGTON 2	V T 1951	+ 1.58	- 1.34	+ 1.19	10.20	22
HALIFAX 97	V R 1977	+ 0.67	- 1.15	- 1.57	5.45 <	23
HANSON 76	V S 1964	+ 0.78	- 0.61	- 0.84	5.30	23
HARDWICK 1	T S 1965	+ 0.26	+ 0.03	- 0.16	16.11	19
HARDWICK 31	T S 1984	+ 0.02	+ 0.08	- 0.19	11.48	21
HAVERHILL 23	T S 1960	+ 0.53	+ 1.30	- 0.41	13.67	24
HAWLEY 8	S T 1986	+ 0.21	- 0.21	- 0.31	4.37	21
LAKEVILLE 14	T S 1964	+ 0.15	+ 1.72	- 0.72	18.30	22
LEXINGTON 104	V S 1965	+ 0.40	+ 0.07	+ 0.38	2.28	29
MASHPEE 29	F S 1976	- 0.05	- 0.68	- 0.56	9.66	24
MIDDLEBOROUGH 82	V T 1965	+ 0.80	- 2.00	- 3.88	16.56	23
MONTAGUE 5	S S 1942	- 0.33	- 0.15	- 0.23	3.57	21
MONTGOMERY 19	S S 1986	+ 0.13	- 0.59	- 0.92	2.52 <	21

WELL	L I O T P H O O	START OF RECORD	NET CHANGE IN MONTH	NET CHANGE IN ONE YEAR	DEPARTURE FROM NOVEMBER MEDIAN	WATER LEVEL BELOW LAND- SURFACE DATUM	
	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)	DAY
MASSACHUSETTS (CONTINUED)							
NANTUCKET 228	F S 1976	- 0.44	- 0.32	+ 0.14	25.31	22	
NEW BEDFORD 116	V S 1964	+ 0.54	- 0.27	- 0.06	3.94	22	
NEWBURY 27	V T 1965	+ 1.96	- 0.50	- 1.08	8.72	24	
NORFOLK 27	V S 1965	+ 0.32	- 1.75	- 0.24	6.40	22	
NORTHBRIDGE 54	V S 1984	+ 0.09	- 0.24	- 0.24	4.66	19	
NORTON 37	F S 1964	+ 1.83	- 1.12	- 2.31	8.96	22	
ORANGE 63	T S 1985	+ 0.37	+ 0.24	- 0.09	7.53	23	
OTIS 7	V S 1965	+ 0.25	- 0.84	- 0.30	8.46	22	
PELHAM 23	S R 1984	+ 0.92	- 0.95	- 1.79	12.98	< 23	
PELHAM 24	S S 1984	+ 0.75	- 0.08	- 1.17	4.75	23	
PETERSHAM 16	S T 1984	+ 1.39	+ 0.02	- 0.94	14.39	21	
PITTSFIELD 51	V S 1963	+ 3.63	- 2.17	- 2.50	19.47	22	
PLYMOUTH 22	T S 1956	- 0.46	+ 0.04	- 1.24	26.52	23	
PLYMOUTH 494	S S 1985	- 0.33	+ 1.73	-----	31.50	23	
SANDWICH 252	F S 1962	- 0.11	+ 0.00	- 0.18	47.74	24	
SANDWICH 253	F S 1962	- 0.17	+ 1.63	- 1.00	51.50	24	
SEEKONK 275	V S 1964	+ 0.54	- 0.78	+ 0.18	6.51	22	
SHEFFIELD 58	F S 1987	- 0.25	- 0.02	- 1.36	15.15	< 22	
SOUTHBOROUGH 12	H T 1990	+ 3.81	- 2.32	-----	11.01	29	
SOUTHWICK 95	T S 1986	- 0.12	- 1.04	- 1.05	4.80	< 22	
STERLING 1	S T 1947	+ 3.75	+ 2.76	- 0.73	5.12	19	
SUNDERLAND 7	S S 1957	- 0.54	+ 2.29	- 1.97	18.29	23	
SUNDERLAND 68	V S 1983	+ 0.08	- 0.17	- 1.30	3.96	< 23	
TAUNTON 337	T S 1964	+ 0.20	- 0.64	- 0.62	9.82	22	
TEMPLETON 3	V S 1957	+ 0.33	- 0.02	+ 0.05	3.32	19	
TOPSFIELD 1	H T 1936	+ 0.15	- 1.48	- 1.67	16.25	24	
TOWNSEND 13	T S 1965	- 0.63	- 0.40	- 0.73	15.04	29	
TRURO 1	T S 1950	+ 0.97	- 0.17	- 0.15	10.90	29	
TRURO 89	T S 1962	- 0.03	+ 0.07	- 0.15	12.38	29	
WAKEFIELD 38	F S 1965	+ 1.06	- 0.33	- 0.19	7.38	29	
WARE 43	V S 1965	+ 0.15	+ 0.32	- 0.16	9.55	21	
WAREHAM 51	T S 1959	+ 0.81	+ 0.31	- 1.59	10.29	22	
WAYLAND 2	T S 1965	+ 0.45	- 0.16	- 0.39	16.81	29	
WEBSTER 1	H S 1958	- 0.85	+ 0.55	- 0.30	14.76	19	
WELLFLEET 17	V S 1962	+ 0.22	+ 1.02	+ 0.10	10.74	29	
WENHAM 76	V S 1965	+ 0.57	-----	- 0.24	2.90	24	
WEST BROOKFIELD 2	T S 1959	- 0.12	- 0.39	- 0.23	20.09	19	
WEST BROOKFIELD 10	S T 1970	+ 1.16	+ 0.10	- 1.99	10.41	19	
WESTHAMPTON 20	S S 1986	- 0.27	- 2.79	- 3.43	17.59	<< 21	
WESTFIELD 62	S S 1957	+ 0.13	- 0.25	- 1.04	9.19	21	
WESTFIELD 152	T S 1986	- 0.26	+ 0.13	- 0.16	3.58	21	
WEYMOUTH 2	F T 1965	+ 0.89	-----	- 5.06	20.55	22	
WEYMOUTH 3	V S 1965	+ 1.89	- 5.65	- 6.48	11.53	23	
WEYMOUTH 4	T S 1965	+ 0.77	- 0.51	+ 0.00	6.85	23	
WILBRAHAM 55	T S 1965	+ 0.01	- 1.45	- 0.52	44.04	21	
WILMINGTOM 78	F S 1951	+ 0.74	+ 0.46	- 0.29	8.46	29	
WINCHENDON 13	S T 1939	- 0.48	- 3.43	- 6.16	13.50	<< 19	
WINCHESTER 14	S T 1940	+ 3.04	- 0.88	- 1.77	11.82	29	
WORCESTER 274	T S 1965	+ 0.17	+ 0.23	+ 0.11	23.50	19	

WELL	L	START	NET CHANGE		DEPARTURE		WATER LEVEL	
	T	I OF	IN MONTH	IN ONE	FROM	NOVEMBER	BELLOW LAND-	DATUM
O	O	O	RECORD	YEAR	MEDIAN	SURFACE	DATUM	DAY
P	H	O	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)	
NEW HAMPSHIRE								
CONCORD 2	T	S	1963	+ 0.12	- 1.15	- 3.26	44.02	< 26
CONCORD 4	F	S	1966	+ 0.21	- 0.67	- 1.55	19.54	26
ERROL 1	V	S	1966	-----	-----	-----	-----	-----
FRANKLIN 1	V	S	1966	+ 0.06	- 0.86	- 1.79	15.08	26
HOOKSETT 5	T	R	1965	+ 1.17	- 0.07	+ 0.02	49.18	26
KEENE 2	V	S	1963	+ 1.07	+ 0.60	- 0.01	3.00	22
LANCASTER 1	V	S	1966	+ 0.12	- 0.44	- 0.28	1.78	19
LEE 1	F	S	1953	+ 0.12	- 0.11	- 0.43	31.54	26
MILFORD 36	V	S	1962	+ 0.56	- 0.08	+ 0.91	7.10	22
NASHUA 218	T	S	1964	+ 0.27	+ 0.25	+ 0.27	28.47	26
NEW LONDON 1	S	T	1947	+ 0.22	- 1.97	- 3.23	15.65	26
WARNER 1	T	S	1965	+ 0.25	- 0.44	- 0.67	32.25	26
RHODE ISLAND								
BURRILLVILLE 187	T	S	1968	+ 0.54	- 0.65	- 0.34	16.41	27
BURRILLVILLE 395	U	T	1992	-----	-----	-----	-----	-----
BURRILLVILLE 396	V	T	1992	-----	-----	-----	-----	-----
BURRILLVILLE 397	H	T	1992	-----	-----	-----	-----	-----
BURRILLVILLE 398	H	T	1992	-----	-----	-----	-----	-----
CHARLESTOWN 18	F	S	1946	- 0.07	- 1.40	- 0.73	20.56	26
CHARLESTOWN 586	V	T	1992	-----	-----	-----	-----	-----
CHARLESTOWN 587	S	T	1992	-----	-----	-----	-----	-----
COVENTRY 342	V	S	1991	-----	-----	-----	-----	-----
COVENTRY 411	S	S	1961	+ 0.22	- 0.29	- 0.98	23.12	26
COVENTRY 466	V	T	1992	-----	-----	-----	-----	-----
CRANSTON CITY 439	S	T	1992	-----	-----	-----	-----	-----
CUMBERLAND 265	S	S	1946	+ 2.29	- 0.90	- 0.97	13.24	27
EXETER 6	V	S	1948	+ 0.13	- 1.54	- 0.40	6.73	26
EXETER 158	S	T	1991	-----	-----	-----	-----	27
EXETER 238	F	T	1991	+ 0.00	- 1.30	- 0.65	12.53	< 26
EXETER 278	H	T	1991	-----	-----	-----	-----	26
EXETER 475	V	S	1981	+ 0.12	- 0.85	- 0.98	16.42	26
EXETER 554	S	S	1988	+ 0.27	- 1.11	- 1.18	11.52	< 26
FOSTER 40	H	T	1991	+ 3.09	- 4.32	- 3.83	7.17	27
FOSTER 290	H	T	1992	-----	-----	-----	-----	-----
HOPKINTON 67	S	T	1991	+ 0.57	- 2.16	- 3.11	21.50	26
LINCOLN 84	V	S	1946	+ 0.03	- 2.08	- 1.07	6.44	27
LITTLE COMPTON 142	S	T	1992	-----	-----	-----	-----	-----
NEW SHOREHAM 258	U	T	1991	-----	-----	-----	-----	-----
NORTH KINGSTOWN 255	V	S	1954	+ 0.33	- 1.43	- 1.26	9.97	26
NORTH SMITHFIELD 21	T	S	1947	- 0.51	- 2.51	- 2.60	10.74	27
PAWTUCKET 136	T	S	1962	+ 0.19	- 0.91	- 0.78	5.85	27
PORTSMOUTH 551	H	T	1992	-----	-----	-----	-----	-----
PROVIDENCE 48	T	S	1944	-----	-----	-----	-----	-----
RICHMOND 417	V	S	1976	+ 0.09	- 0.85	- 0.68	7.70	26
RICHMOND 600	T	S	1977	+ 0.08	- 0.99	- 1.08	35.45	26
RICHMOND 785	F	S	1989	- 0.19	- 0.28	-----	25.92	26
SOUTH KINGSTOWN 6	V	S	1955	+ 0.21	- 1.07	+ 0.20	13.18	26
SOUTH KINGSTOWN 515	U	S	1955	-----	- 2.79	- 2.35	30.73	< 26
TIVERTON 274	T	T	1990	-----	-----	-----	-----	-----
WARWICK 59	S	T	1991	+ 1.44	- 14.04	- 13.13	20.68	< 26
WESTERLY 522	F	S	1969	+ 0.54	- 1.23	- 1.00	13.49	26
WEST GREENWICH 181	U	S	1969	+ 0.43	- 2.37	- 1.07	16.56	27
WEST GREENWICH 206	S	T	1991	-----	- 1.59	- 1.31	5.48	26

WELL	L	START	NET CHANGE		DEPARTURE	WATER LEVEL
	T	I OF	IN MONTH	IN ONE	FROM NOVEMBER	BELOW LAND-
O	T RECORD		YEAR	MEDIAN	SURFACE	
P	H	(FEET)	(FEET)	(FEET)	DATUM	
O	O				(FEET)	DAY

VERMONT

BERKSHIRE 1	V S 1966	-	0.21	+	0.73	+	0.26	13.80	22
BRIGHTON 1	V S 1966	+	0.02	-	0.23	+	0.10	3.55	23
CHESTER 1	V S 1966	+	0.59	+	0.10	-	0.09	5.16	23
GLOVER 1	T S 1966	+	0.20	+	0.27	+	0.36	16.34	22
HARTLAND 54	V S 1969	-	0.03	-	0.83	-	0.68	9.82	24
MILTON 3	T S 1956	-	1.30	+	1.81	+	0.80	33.58	22
MONTPELIER 2	V S 1966	+	0.13	-	0.15	+	0.15	15.17	30
MORRISTOWN 1	S S 1966	-	0.06	+	0.16	-	0.18	19.56	22
PITTSFORD 8	T S 1957	+	0.10	-	0.20	-	0.64	37.04	24
POWNAL 1	V S 1964	+	0.79	+	0.13	-	0.27	13.99	26
ROCHESTER 1	V S 1966	+	0.26	-	1.45	-	1.31	11.52	24
WAITSFIELD 2	V S 1975	+	0.08	-	0.67	-	0.47	6.93	22
WAITSFIELD 3	V S 1975	+	0.09	-	0.59	-	0.50	6.77	22
WEST FAIRLEE 1	T S 1966	+	0.75	-	0.05	-	0.02	4.14	22

> SET NEW HIGH OR EQUALLED HIGHEST RECORDED WATER LEVEL FOR END OF NOVEMBER
 >> SET NEW HIGH OR EQUALLED HIGHEST RECORDED WATER LEVEL FOR PERIOD OF RECORD
 < SET NEW LOW OR EQUALLED LOWEST RECORDED WATER LEVEL FOR END OF NOVEMBER
 << SET NEW LOW OR EQUALLED LOWEST RECORDED WATER LEVEL FOR PERIOD OF RECORD
 -- DATA NOT AVAILABLE

TOPOGRAPHIC (TOPO) SETTING: F=FLAT, H=HILLTOP, S=HILLSIDE, T=TERRACE,
 U=UNDULATING, V=VALLEY, W=UPLAND DRAW
 LITHOLOGY (LITHO): G=GRAVEL, R=ROCK, S=SAND, T=TILL

CONTENTS OF MAJOR RESERVOIRS (ESTIMATED END OF MONTH READINGS)
 (MILLIONS OF CUBIC FEET)

RESERVOIR	MONTH-END CONTENTS	% AVERAGE	% FULL
FIRST CONNECTICUT LAKE, NH	2193	90	66
LAKE FRANCIS, NH	3694	108	85
LAKE WINNIPEAUKEE, NH	4820	109	67
SOMERSET RESERVOIR, VT	2037	113	81
HARRIMAN RESERVOIR, VT	4085	122	81
BORDEN BROOK + COBBLE MTN RES., MA	2216	89	65
QUABBIN RESERVOIR, MA	48746	--	88.5
SCITUATE RESERVOIR, RI	3118	82	64

A MONTHLY REPORT PREPARED BY THE
 U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION
 28 LORD ROAD, SUITE 280, MARLBOROUGH, MA 01752

IN COOPERATION WITH THE STATES OF
 MASSACHUSETTS, NEW HAMPSHIRE, RHODE ISLAND, AND VERMONT